

Appl. No.: 10/090,888
Reply to Office Action of: 02/23/2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A system for adjusting audio output comprising:

a transmitter unit adapted to be carried by a user, the transmitter unit comprising a memory and a signal transmitter; and

an entertainment sound generating system comprising a sound generator adapted to output entertainment sound signals based upon input entertainment data, a signal receiver, means for altering the entertainment sound signals from the sound generator based upon a signal transmitted by the signal transmitter to the receiver, and at least one acoustic transducer coupled to the altering means, wherein the sound generator comprises a player adapted to play the entertainment data.

2. (Original) A system for adjusting audio output as in claim 1 wherein the memory comprises hearing information regarding a user's auditory characteristics.

3. (Original) A system for adjusting audio output as in claim 1 wherein the transmitter unit further comprises a battery connected to the signal transmitter.

Appl. No.: 10/090,888
Reply to Office Action of: 02/23/2005

4. (Original) A system for adjusting audio output as in claim 3 wherein the memory comprises a nonvolatile memory.
5. (Original) A system for adjusting audio output as in claim 2 wherein the transmitter unit is adapted to broadcast the hearing information at periodic time intervals.
6. (Original) A system for adjusting audio output as in claim 1 wherein the transmitter unit is adapted for reprogramming of the memory.
7. (Original) A system for adjusting audio output as in claim 1 wherein the altering means comprises a processor connected to the signal receiver and the sound generator.
8. (Original) A system for adjusting audio output as in claim 7 wherein the altering means comprises an electrical sound signal modifier connected to an output of the sound generator and controlled by the processor.
9. (Original) A system for adjusting audio output as in claim 8 wherein the altering means comprises a second sound generator connected to a first output from the electrical sound signal modifier.
10. (Original) A system for adjusting audio output as in claim 9 wherein the altering means further comprises a combiner connected to a second output from the electrical sound signal modifier and connected to an output from the second sound generator.
11. (Currently amended) A system for adjusting audio output as in claim 8 wherein the electrical sound signal modifier is

Appl. No.: 10/090,888
Reply to Office Action of: 02/23/2005

adapted to filter target frequencies, based upon information in the signal transmitted by the signal transmitter, which need amplitude and/or frequency modification.

12. (Original) A system for adjusting audio output as in claim 8 wherein the electrical sound signal modifier comprises a bandpass filter array.

13. (Original) A system for adjusting audio output as in claim 12 wherein the electrical sound signal modifier comprises a frequency shifter.

14. (Original) A system for adjusting audio output as in claim 1 wherein the at least one acoustic transducer comprises speakers.

15-22. (Cancelled)

23. (Previously presented) A method of altering an electrical sound signal in an entertainment sound system comprising steps of:

receiving a hearing adjustment signal by the entertainment sound system from a portable transmitter, the hearing adjustment signal comprising information regarding a user's auditory characteristics;

configuring a variable signal modifier based upon the received hearing adjustment signal; and

transmitting the electrical sound signal through the variable signal modifier and outputting at least one altered electrical sound signal which has been altered

Appl. No.: 10/090,888

Reply to Office Action of: 02/23/2005

based upon the user's auditory characteristics contained in the hearing adjustment signal to generate entertainment sound from a speaker or sound transducer of the entertainment sound system which is spaced from ears of the user.

24. (Original) A method as in claim 23 wherein the variable signal modifier comprises a bandpass filter array which filters target frequencies which need amplitude and/or frequency modification.

25. (Original) A method as in claim 24 wherein the variable signal modifier comprises a first output and a second output, the first output comprising frequencies filtered by the bandpass filter array and the second output comprising frequencies not filtered by the bandpass filter array.

26. (Original) A method as in claim 25 wherein the first output is amplified by a sound generator and then combined with the second output.

27. (Original) A method as in claim 24 wherein the variable signal modifier comprises a frequency shifter which shifts a frequency of at least one of the target frequencies.

28. (Original) A method as in claim 23 wherein the step of receiving a hearing adjustment signal comprises at least two signals comprising a first signal corresponding to a right ear of the user's auditory characteristics and a second signal corresponding to a left ear of the user's auditory characteristics.

Appl. No.: 10/090,888

Reply to Office Action of: 02/23/2005

29. (Original) A method as in claim 23 wherein the step of receiving a hearing adjustment signal comprises receiving separate information regarding the user's auditory characteristics for a left ear and for a right ear.

30. (Previously presented) A system for adjusting audio output as in claim 1 wherein the transmitter unit comprises:

a battery;

the signal transmitter connected to the battery for transmitting a wireless signal; and

the memory connected to the signal transmitter, the memory comprising hearing information regarding a user's auditory characteristics,

wherein the signal transmitter is adapted to transmit at least a portion of the hearing information stored in the memory.

31. (Previously presented) A system for adjusting audio output as in claim 30 wherein the memory comprises a nonvolatile memory.

32. (Previously presented) A system for adjusting audio output as in claim 30 wherein the transmitter unit is adapted to broadcast the hearing information at periodic time intervals.

33. (Previously presented) A system for adjusting audio output as in claim 30 wherein the transmitter unit is adapted for reprogramming of the memory.

Appl. No.: 10/090,888
Reply to Office Action of: 02/23/2005

34. (Previously presented) A system for adjusting audio output as in claim 1 wherein the sound generating system comprises:

a processor;

the sound generator being provided as a first sound generator coupled to the processor;

a second sound generator coupled to the first sound generator by a programmable sound signal modifier;

a combiner for combining an output from the second sound generator with a portion of an output from the signal modifier; and

wherein the signal receiver comprises a wireless signal receiver coupled to the processor, the receiver being adapted to receive a hearing information signal containing a user's auditory characteristics,

wherein the processor is adapted to configure the modifier based upon the hearing information signal received by the receiver.

35. (Previously presented) A system for adjusting audio output as in claim 34 wherein the signal modifier is adapted to filter target frequencies, based upon information in the hearing information signal, which need amplitude and/or frequency modification.

36. (Previously presented) A system for adjusting audio output as in claim 34 wherein the sound signal modifier comprises a bandpass filter array.

Appl. No.: 10/090,888
Reply to Office Action of: 02/23/2005

37. (Previously presented) A system for adjusting audio output as in claim 36 wherein the sound signal modifier comprises a frequency shifter.

38. (Previously presented) A system for adjusting audio output comprising:

a transmitter unit adapted to be carried by a user, the transmitter unit comprising a memory and a signal transmitter; and

a sound generating system comprising a sound generator adapted to output sound signals based upon input data, a signal receiver, an altering system for altering the sound signals from the sound generator based upon a signal transmitted by the transmitter to the receiver; and at least one acoustic transducer/speaker coupled to the altering system,

wherein the transmitter unit is adapted to automatically send the signal to the receiver without user activation.

39. (Previously presented) A system for adjusting audio output as in claim 38 wherein the transmitter unit is adapted to periodically transmit the signal.

40. (Previously presented) A system for adjusting audio output as in claim 38 wherein the transmitter unit is adapted to automatically transmit the signal based upon a predetermined event.